

CLAIMS

1. A method for controlling the configuration of the movements of the liquid metal poured into a continuous casting mold for metal slabs or other similar flat products, especially made of steel, by means of a submerged nozzle provided with lateral outlet ports turned so as to face the short walls of the mold, it being possible for said configuration to be naturally in "single loop" or "double loop" mode, or else to be "unstable", characterized in that traveling magnetic fields are employed that act on the streams of liquid metal arriving in the mold (18) via the ports (2) of the submerged nozzle (3), said magnetic fields being produced by linear electromagnetic inductors (14, 14', 15, 15') placed so as to face at least one wall of the mold on either side of the nozzle so as to set up, or stabilize, a steady-state configuration in "double loop" mode.
2. The method as claimed in claim 1, characterized in that magnetic fields are employed that travel horizontally outward, in the direction going from the nozzle (3) toward each short mold wall (5), by means of inductors (14, 14', 15, 15') placed so as to face at least one long wall of the mold on either side of the nozzle.
3. The method as claimed in claim 1 or 2, characterized in that the magnetic fields are made to travel throughout the entire casting operation.
4. The method as claimed in claim 1 or 2, characterized in that said traveling magnetic fields are employed only if the configuration of the movements of the metal poured into the mold is not naturally in "double loop" mode.

5. The method as claimed in claims 2 and 4, characterized in that, if the configuration of the movements is already naturally in "double loop" mode, the magnetic fields are made to travel horizontally by means of said inductors (14, 14', 15, 15') placed so as to face at least one long wall of the mold on either side of the nozzle after the said inductors have been set so that the fields produced by each of them all travel in the same direction so as to impress on the liquid metal in the mold an overall movement of rotation about the casting axis.
6. An installation for implementing the method as claimed in claim 2, comprising an electromagnetic unit (10) formed by at least one pair of linear traveling-magnetic-field inductors mounted so as to face at least one long wall of the mold and oriented so as to produce a horizontal traveling magnetic field, and a controlled polyphase power supply (11), characterized in that said power supply is connected to each pair of linear inductors (14, 14', 15, 15') of said electromagnetic unit (10) in order to produce in each of them a traveling magnetic field directed solely outward, in a direction going from the submerged nozzle (3) toward a short wall of the mold (5).